AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-22. (Canceled)

23. (New)   An interface module connected to a non-independent medium, the interface module comprising:

a processor configured to perform network communication according to a predetermined protocol comprising a network layer, a data link layer, and a physical layer, the network communication including a transmitting operation and a receiving operation; and

a serial interface configured to communicate with a device using a predetermined frame structure, wherein the transmitting operation comprises:

generating, at the network layer, a network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprises an address of the interface module, an destination address, and a kind of a packet based on importance;

transmitting, from the network layer, the NPDU to the data link layer;

transmitting, from the data link layer, a frame including the NPDU to the physical layer; and

transmitting, from the physical layer, a first signal made by the frame through the non-independent medium;

wherein the receiving operation comprises:

receiving a second signal through the non-independent medium;

interpreting, at the processor, a home code of the second signal, the home code being used to solve problems relating to the use of the non-independent medium; and

transmitting the interpreted second signal to the device through the serial interface module using the predetermined frame structure.

24. (New)   The interface module of claim 23, wherein the device is at least one of another interface module, a network manager and a home appliance.

25. (New)   The interface module of claim 24, wherein the network manager controls and monitors the home appliance.

26. (New)   The interface module of claim 23, wherein the non-independent medium is comprises at least one of RF (radio frequency), PLC (power line communication) and IrDA (infrared data association).

27. (New) The interface module of claim 23, wherein the serial interface is a universal asynchronous receiver and transmitter (UART).

28. (New) A method for managing data communication, the method performed by an interface module, the interface module comprising a processor configured to perform network communication according to a predetermined protocol comprising a network layer, a data link layer, and a physical layer and comprising a serial interface configured to communicate with a device using a predetermined frame structure, the method comprising:

performing a transmitting operation, wherein the transmitting operation comprises:

generating, at the network layer, an network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprising an address of the interface module, a destination address, and a kind of a packet based on importance;

transmitting, from the network layer, the NPDU to the data link layer;

transmitting, from the data link layer, a frame including the NPDU to the physical layer; and

transmitting, from the physical layer, a first signal made by the frame through the non-independent medium; and

performing a receiving operation, wherein the receiving operation comprises:

receiving a second signal through the non-independent medium;

interpreting, at the processor, a home code of the second signal, the home code being used to solve problems relating to the use of the non-independent medium; and

transmitting the interpreted second signal to the device through the serial interface module using the predetermined frame structure.

29. (New) The method of claim 28, wherein the device is at least one of another interface module, a network manager and a home appliance.

30. (New) The method of claim 29, wherein the network manager controls and monitors the home appliance.

31. (New) The method of claim 28, wherein the non-independent medium is comprises at least one of RF (radio frequency), PLC (power line communication) and IrDA (infrared data association).

32. (New) The method of claim 28, wherein the serial interface is a universal asynchronous receiver and transmitter (UART).